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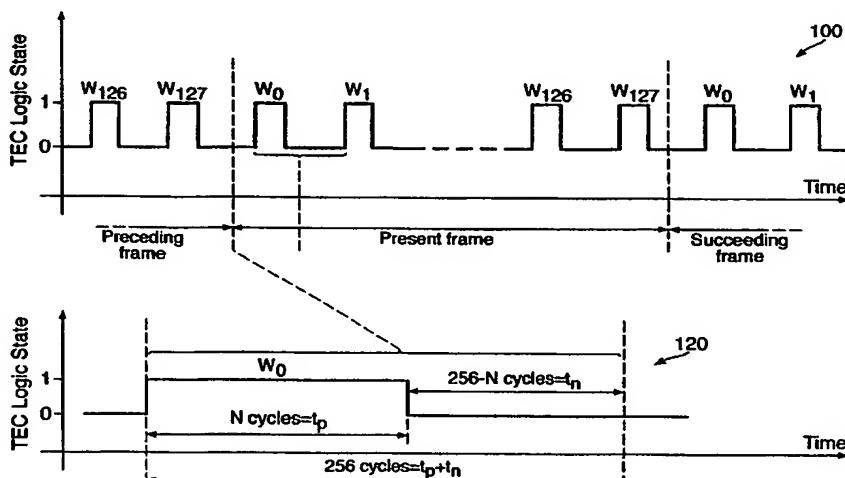
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**(54) Title:** METHOD AND APPARATUS FOR GENERATING A PULSE WIDTH MODULATED SIGNAL AND OPTICAL ATTENUATOR CONTROLLED BY A PULSE WIDTH MODULATED SIGNAL



**(57) Abstract:** A method of generating a pulse width modulated (PWM) signal comprises: receiving digital demand data  $V_{control}$  comprising at least one more significant bit (bit<sub>7</sub> to bit<sub>14</sub>) and at least one less significant bit (bit<sub>0</sub> to bit<sub>6</sub>). The PWM signal comprises a sequence of one or more frames (100), each frame: comprising a plurality of PWM pulses (W1 to W127) whose duty cycle is substantially governed by the at least one more significant bit (bit<sub>7</sub> to bit<sub>14</sub>); and having at least one of its PWM pulses selected to have its duty cycle modified in response to the at least one less significant bit (bit<sub>0</sub> to bit<sub>6</sub>); each of the at least one less significant bit (bit<sub>0</sub> to bit<sub>6</sub>) uniquely mapping onto the at least one selected PWM pulse of the frame (100). The invention is also concerned with apparatus operable according to the above method and an optical attenuator whose optical attenuation is dependent upon its temperature and in which the temperature and hence attenuation is controlled using the above PWM signal.

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